

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim 2 has been made a proper independent claim and includes the limitations of claim 1.

In view of the allowability of claims 2-9, Applicants believe that claims 2-9 should be allowed, along with claim 11.

The Examiner has finally rejected claims 1 and 10 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,310,982 to Allred et al.

The Allred et al. patent discloses a method and apparatus for reducing motion artifacts and noise in video image processing in which an image signal is subjected to temporal filtering, where the amount of temporal filtering is adjusted in dependence on the amount of motion detected in the image signal.

The subject invention relates to reducing noise in a video signal and combines a spatial filter with a temporal filter to perform this task. To that end, the spatio-temporal filter includes, as claimed in claim 1, "a sigma filter for reducing noise in images", wherein "the sigma filter comprises one filter kernel for operating on pixels from both a current image and from an output of the spatio-temporal filter unit, said output supplying a temporally recursive filtered image". This is clearly shown in Fig. 1, in which the filter kernel 107 of the sigma filter 112 receives

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pixels of the input signal via input 102, spatial pixel buffer 104 and spatial pixel selector 106, and pixels from an output (118) of the spatio-temporal filter unit via picture memory 114, cache 116, temporal pixel buffer 108 and temporal pixel selector 110.

It has been well established that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

According to the Examiner, "Allred discloses a video image filter 10 (the claimed spatio-temporal filter unit), which includes a spatial filter 18 and a temporal filter 38 (Fig 2/3)..."

Applicants submit that the spatial filter 18 and temporal filter 38 of Allred et al. clearly do not operate on pixels from the current image and from the output of the spatio-temporal filter which is a temporally recursive filtered image. Rather, these filters of Allred et al. operate on a difference between the


current image and the filtered output of the Allred et al. apparatus delayed for a (field?) period. Hence, the output from the filter functions 26 is not a filtered image signal, but rather a difference signal. As such, in order to form the filtered image signal, it is necessary to add the delayed filtered signal to the output of the filter functions 26.

Applicants submit, therefore, that Allred et al. does not disclose "each and every element as set forth in the claim", and the elements are not arranged as required by the claim.

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-11, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by 
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